INFO-HAMS Digest Sat, 16 Dec 89 Volume 89 : Issue 1028

Today's Topics:

Date: 16 Dec 89 06:17:25 GMT
From: fox!portal!cup.portal.com!wordy@apple.com (Steven K Roberts)
Subject: 10 meter mobile
Message-ID: <25087@cup.portal.com>

In response to the question about up/down mics for the Ranger 10-meter mobile... the answer is yes. It works very well... even 2-speeds selectable with a thumb button. Contact Vic at Clear Channel in Issaquah, WA -- 206-392-0419.

73...
Steve Roberts
Nomadic Research Labs
N4RVE

Date: 16 Dec 89 02:36:29 GMT
From: hpl-opus!hpnmdla!hpmwtd!timb@hplabs.hp.com (Tim Bagwell)
Subject: Kenwood TS940 EPROM To Borrow?
Message-ID: <1260013@hpmwtlb.HP.COM>

No EPROM here but how do like the TS940?

de Tim, WB9MVP

Date: 16 Dec 89 13:04:03 GMT
From: zaphod.mps.ohio-state.edu!usc!chaph.usc.edu!girtab.usc.edu!
eickmeye@tut.cis.ohio-state.edu (Biff Henderson)
Subject: Modifiying radios for out of band operation
Message-ID: <7071@chaph.usc.edu>

In article <1742@ultb.isc.rit.edu> cep4478@ultb.isc.rit.edu (C.E. Piggott) writes:

>In article <31140@iuvax.cs.indiana.edu> amirza@silver.bacs.indiana.edu (anmar mirza) writes:
>>Also, where is it a LAW that I cannot transmit out of bands on my radio?
>>Last I looked, it was merely a regulation through the FCC, not a LAW.
>
>But you bring up an interesting question: part 97 doesn't make any
>mention of penalties for infractions, except with regard to loss of
>your license for failure to answer an official notice of violation.
>Is this stuff, in fact, written somewhere? And for that matter,
>if it's 'law', do normal constitutional rights apply, or do we waive
>them when we sign the 610 form? (Like Driver's licenses)
>(Can we ask for a jury trial? :-))

(BTW, the following applies to all federal administrative agencies, not just the FCC.)

Your constitutional rights always apply when dealing with the federal government, although they may be interpreted differently than you would like to interpret them.

The FCC regulations are just that: regulations, not law. Laws may only be passed by Congress and then require the President's signature or a Congressional over-ride of the President's veto.

The FCC's policies are contained in the Code of Federal Regulations (CFR). The FCC must publish proposed rules in the Federal Register (FR), wait for public comment, and then publish the final rules along with a summary of the public comments and the FCC's response to the comments.

If you violate something in the CFR, they cannot "throw your butt in jail." However, the FCC can haul you before an administrative law judge and possibly fine you. And, you can be hauled before Federal Judge Wapner if your actions also violated a law. (Laws are usually found in the United States Code, cleverly abbreviated, for those of us at USC, USC.) The good news is: you still have your interpreted Constitutional rights after you've violated the CFR, and you can appeal any adverse rulings from the CFR to a federal district court.

To re-cap the legal priority flowchart, from most important to least important:
Constitution (from Philadelphia)
Laws (from Congress)
Administrative Regulations (from FCC, etc.)
Your Dad
You
:-)

Date: 16 Dec 89 02:34:04 GMT
From: hpl-opus!hpnmdla!hpmwtd!timb@hplabs.hp.com (Tim Bagwell)
Subject: pudgy wound helical antenna (60m vertical in my living room!)
Message-ID: <1260012@hpmwtlb.HP.COM>

Mike,

I think it's great that you are experimenting with antenna designs. We should see more of this kind of worthwhile discussion on the net.

A couple of comments though...

1) What you have is a vertical antenna with a tuning inductor built in. That is why you can obtain resonance with only 4' of height on 49m. A short vertical antenna will have a capacitive reactance that must be resonated with inductance which you have incorporated into the antenna itself. The radiation pattern, I would guess, is similar to that of a 4' monopole. The fact that the reactance is distributed over the length of the antenna helps to make it more broadband.

2) I can appreciate the space saving aspect of the design, but you get what you pay for. I don't think you can do better than a full length antenna. To capture the most energy you need as large an effective aperture as you can get. However, I have no doubt that you can do better than your window antenna (which, I admit, do work remarkably well).

3) Helical designs are most effective when the diameter is one wavelength or more. This makes it radiate in its axial mode which gives it some directive gain (not too practical at HF).

I would dearly love to see someone come up with a compact antenna that performs as well as the big ones, but I think we're up against one of those doggone physical limits here.

Keep up the good work.

73's de Tim, WB9MVP

Date: 16 Dec 89 01:21:58 GMT
From: hpl-opus!hpnmdla!hpmwtd!timb@hplabs.hp.com (Tim Bagwell)
Subject: Receive antennas.
Message-ID: <1260011@hpmwtlb.HP.COM>

The term "near field" refers to that region of space, near the antenna, where

the energy is predominately reactive. In this region of space, the electric and magnetic fields are 90 degrees out of phase for the most part and thus do not give rise to power flow but instead cause reactive energy to be stored in the vicinity of the antenna. It is this stored energy that causes the reactive part of the input impedance.

As you increase the distance from the antenna, the out-of-phase fields decrease faster than the in-phase fields (1/r/r and 1/r/r/r). In the "far field" the slowly decreasing (1/r) in-phase fields dominate and give rise to the flow of power away from the antenna. This power flow causes a real part to the input impedance which is called radiation resistance.

There is no boundary between the two regions and generally it is not important to define where the transition occurs. Usually one speaks of the far field to imply that you are far enough away from the antenna to neglect the oscillating fields of the near field region. If you are not in the far field of the antenna then it gets very complicated.

I hope this helps.

73's de Tim, WB9MVP

Date: 15 Dec 89 13:14:20 GMT
From: hpda!hpwala!hpnjld!eyg@ucbvax.Berkeley.EDU (Ed Gilbert)
Subject: What about for us SWL's ? Re: Tuning dipoles and antennas.
Message-ID: <4140011@hpnjld.HP.COM>

>So for a receive only situation, don't worry too much about SWR and line losses.
>This seems also to say that receiver sensitivity (at HF) is not a big deal?
>But a good set of filters and noise suppressors should be helpful.

I agree completely.

>Seems to me also that you want an antenna that has a low angle of radiation to
>minimize the amount of the overhead sky that the antenna "sees". A simple dipole
>is not too good in this regard. Sounds like a good arguement for a vertical
>antenna of some type or of course a yagi if you have $$$ and space.

One would think that a vertical would be great for receiving dx, however my experience with them is that they are fine transmitting antennas, but lousy for receiving. The problem is that they pick up too much noise, both locally generated and atmospheric. It seems that all the local noise generators, such as line noise, TV birdies, touch-and-glow lamps, cable TV hash, etc, are all mostly vertically polarized, perhaps since these sources are close to the ground so the horizontal components tend to get canceled when combined with ground image reflection. Also,

most indoor antennas are poor receiving antennas, not because of the poor efficiency due to the surrounding building, but because they are so tightly coupled to power line noises. I think a simple dipole is very effective for receiving. Don't worry too much about its efficiency or swr, just try to get it as far away from noise generators as possible.

Ed Gilbert, WA2SRQ

Date: 15 Dec 89 19:10:30 GMT
From: hpda!hpwala!hpnjld!eyg@ucbvax.Berkeley.EDU (Ed Gilbert)
Subject: Yaesu FT1000 comments?
Message-ID: <4140012@hpnjld.HP.COM>

Has anyone had a chance to play with the new Yaesu HF rig, the FT1000? I understand that this rig has been available in Europe for a while, so perhaps someone out there in netland has used one. I would like to hear critical comments, either good or bad, from anyone who has.

Ed Gilbert, WA2SRQ

End of INFO-HAMS Digest V89 Issue #1028
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